



Hart InterCivic

HVS version 6.2.1 on Windows 7 OS
Report on Testing for states of OR and WA
Conducted 07/03/12

On July 3, 2012 Hart InterCivic representative Peter Lichtenheld presented Hart Voting System (HVS) version 6.2.1, with a minor modification to Ballot Now enabling the use of the Canon X10C scanner, with the assistance of Stuart Holmes, Benton County Election Administrator, and for an audience of Patty Murphy, with the Washington State Office of the Secretary of State, and Steve Trout, with the Oregon State Office of the Secretary of State.

The presentation was a culmination of Hart testing so that the states of Washington and Oregon would have the opportunity to port HVS 6.2.1 to the Windows 7 (Win7) platform via administrative approval, thus extending the life of the voting system beyond the availability of the current platform, Windows 2000. The presentation was conducted from 9AM to 12PM on July 3 at the Benton County Auditor's office in Prosser, WA, and Stuart Holmes operated all hardware and software during the presentation. The Win7 PC tower and the Canon X10C scanner used for the presentation were configured at and shipped from Hart offices in Austin, Texas and all other peripheral devices and consumables were provided by Benton County.

The presentation workflow followed the process used during an election cycle (polling place voting devices were not included in the process, as there is no impact to those devices when porting the software applications to Win7):

- Configure Hart security token with Hart application eCM Manager
- Receive a data file from the State (EDX if WEI, .txt if Oregon)
- Process that file with Hart utility Infusion (if necessary)
- Import data files into the Hart application BOSS
- Format the ballot layout in BOSS
- Export to the TRANS utility for audio recording and language translations
- Import recorded audio and translated text files into BOSS
- Complete layout, print reports and write media in BOSS
- Print, scan and resolve ballots in Hart application Ballot Now
- Print Ballot Now reports and save scanned ballot data to media
- Finalize BOSS database
- Import finalized BOSS database to Hart application Tally
- Read media into Tally and produce reports

Testing went as expected and was successful. An "HRCHECK" error (80043AE3) was encountered in Ballot Now after viewing and saving the scan batch report and while saving the scan batch. This error caused a disconnect with the Ballot Now database. This error has been investigated and has been determined an anomaly that is unlikely to repeat itself and that, in fact, we have not been able to reproduce. There has been one documented instance of an HRCHECK error in Ballot Now on HVS 6.2.1 and we have seen Ballot Now database disconnects, internally, after reviewing and printing a Scanned Batch Report, both of these issues have been on Windows 2000 systems.

Database disconnects are recoverable conditions. Recovery steps are:

1. Exit Ballot Now.
2. Start Ballot Now and login without the MBB installed, then select Election > Exit.

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3. Start Ballot Now and login without the MBB installed, then select Election > Select Election (open the database), then select Election > Exit.
 4. Start Ballot Now and login with the MBB installed, then select Election > Select Election (open from MBB) and continue as usual.

The Hart Voting System can run on a PC set up with Win7 without encountering the particular HRCHECK error experienced in the July 3 presentation. After a thorough review by Hart engineers, nothing in the configuration of the PC or Win7 has been linked to the HRCHECK error. The HRCHECK error does appear to be a Borland-related item (Borland software products are used in compiling Hart software) that has to do with an unhandled error in loading Crystal Reports (Hart software uses Crystal Reports for reporting). Again, it is a rare error, it is recoverable and similar errors have been encountered in HVS 6.2.1 running on Windows 2000. It is not related to the Win7 environment.

Win7 PC's for use with HVS 6.2.1 in the states of Washington and Oregon will be configured thusly:

- Hart Card Reader set as only ballot media device
- Including drivers for the Canon scanner with firmware version 2.43, or a Kodak i600 series scanner with firmware version 2.04
- TRANS version 6.5.4.7 installed on BOSS computer and executable included for use on non-Hart Win7 PC's (e.g., at a language service provider's facility)
- Configured for Hart applications residing on the PC
 - eCM Manager, Infusion (optional), BOSS, Tally, TRANS may be on the same PC (or may be configured per PC with a subset of these applications)
 - Ballot Now version 3.3.12 and Ballot Now Image Processor may be on the same PC or the Ballot Now Image Processor may be on a client PC associated with the Ballot Now PC
 - A Ballot Now station that is used for ballot scanning may be configured for the Canon X10C scanner and/or the Kodak i600 series of scanners
 - Any additional Hart utilities will reside on separate PC's from those PC's listed above

Two additional questions came up during the HVS 6.2.1 on Win7 presentation:

Q1. Are candidate details translated?

A1. Yes, they are IF the user deselects the "reuse English candidate details in every language" checkbox in the BOSS interface. During the presentation on 7/3/12, this checkbox was selected, and candidate details were not translated.

Q2. Is the use of HVS 6.5.4, which is in use in Oklahoma on the Win7 platform, an option for Washington and Oregon?

A2. As briefly discussed during the presentation, HVS 6.5.4 is a system that was customized for use in Oklahoma. As such, many features that other states use, but Oklahoma does not, were stripped out. One of those features is the use of write-in candidates. Since both Washington and Oregon make extensive use of write-in candidates, and HVS 6.5.4 does not support the use of write-in candidates, this alone eliminates HVS 6.5.4 as a viable option for these states.

Given the previously submitted documentation, the presentation on 7/3/12 and this report, Hart InterCivic hereby requests administrative approval of HVS 6.2.1 with Ballot Now version 3.3.12 and TRANS utility version 6.5.4.7 running on the Windows 7 Operating System.